(19) World Intellectual Property Organization International Bureau



English

A CONTRACT DESIGNATION OF A PROPERTY OF THE PR

(43) International Publication Date 8 February 2001 (08.02.2001)

(10) International Publication Number WO 01/09304 A2

| (51) | International Patent Classification7: | C12N 15/0 |
|------|---------------------------------------|-----------|
| | | |

(21) International Application Number: PCT/US00/21008

(22) International Filing Date: 28 July 2000 (28.07.2000)

(26) Publication Language: English

(30) Priority Data: 60/146,600

(25) Filing Language:

30 July 1999 (30,07,1999) US

(71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY (US/US): 1007 Market Street, Wilmington, DE 19898 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CAHOON, Rebecca, E. [US/US]; 2331 West 18th Street, Wilmington. DE 19806 (US). GUTTERIDGE, Steven [US/US]; 4

Austin Road, Wilmington, DE 19810 (US). HARVELL, Leslie, T. [US/US]; 103 Edward Lee Court, Newark, DE 19713 (US). RAFALSKI, J., Antoni [US/US]; 2028 Longcome Drive, Wilmington, DE 19810 (US). TAO, Yong [CN/US]; 101-8 Thorn Lane, Newark, DE 19711 (US). WENG, Zude [CN/US]; Apartment 301, 495 Leslie Court, Des Plaines, IL 60016 (US).

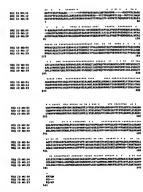
(74) Agent: RIZZO, Thomas, M.; E.J. Du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).

(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN. IS. JP. KE. KG. KP. KR. KZ. LC. LK. LR. LS. LT. LU. LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: POLYNUCLEOTIDES ENCODING AMINOLEVULINIC ACID BIOSYNTHETIC ENZYMES



(57) Abstract: This invention relates to an isolated nucleic acid fragment encoding an aminolevulinic acid biosynthetic enzyme. The invention also relates to the construction of a chimeric gene encoding all or a portion of the aminolevulinic acid biosynthetic enzyme, in sense or antisense orientation, wherein expression of the chimeric gene results in production of altered levels of the aminolevulinic acid biosynthetic enzyme in a transformed host cell.

O 4 Ö O ä ja de E 4 c